

Remarks

Claims 1-33, 35-40, 42, 43 and 46-77 remain in this application. Claims 34, 41, 44 and 45 have been canceled. Claims 1-30 have been withdrawn as the result of an earlier restriction requirement.

Objection to Claims 35, 59 and 60

Claims 35 and 59-60 have been objected to. The Examiner contends that the claims contain method limitations that are given little to no patentable weight in article claims. Specifically, the Examiner objects to the following limitations: claim 35 recites the limitation that the non-adhesive forms are applied by printing; claim 59 recites that the thickness of the non-adhesive forms is sufficient to cause deformation of the facestock upon application to the substrate; and claim 60 recites the limitation that the non-adhesive material forms are applied by vacuum metallization or sputtering.

Applicants have amended claim 35 to recite that the pattern of non-adhesive material forms comprises a plurality of printed non-adhesive material. Claim 59 has been amended to recite that the thickness of the non-adhesive material forms is sufficient to result in deformation of the facestock upon application of the adhesive article to a substrate. Neither claim 35 nor claim 59 includes a method limitation. Furthermore, claim 60, which recites a pattern of vacuum metalized or sputtered deposits of non-adhesive material forms, does not include a method limitation. Therefore, Applicants respectfully request withdrawal of the objection to claims 35, 59 and 60.

Rejection of Claims 31-33, 35-40, 42, 46-52, 55 and 59 under 35 U.S.C. §103(a)

Claims 31-33, 35-40, 42, 46-52, 55 and 59 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Rusincovitch et al. (US Pat. No. 5,675,787). The Examiner contends that Rusincovitch discloses an adhesive article comprising a release liner, a continuous layer of adhesive adhered to the release liner and a pattern of non-adhesive material forms embedded into the release surface of the release liner. The Examiner has relied, in part, on Figure 4B of Rusincovitch as support for his position that the non-adhesive forms are embedded into the release surface. The Examiner has also relied on Applicant's specification for a teaching to modify the article of Rusincovitch. The Examiner contends that, in the absence of unexpected results, Rusincovitch et al. teach an equivalent method of forming the release liner and the non-adhesive material forms would inherently become embedded to a height equal to or below the top plane of the release liner given the equivalence in the method of forming the release liner, i.e., the use of rollers prior to the application of the adhesive layer.

Applicants respectfully disagree with the Examiner's contention. Rusincovitch does not disclose, teach or suggest embedding a pattern of non-adhesive material forms in the

release surface of the release liner. Rather, Rusincovitch teaches that the non-adhesive forms are printed on the surface of the release liner. (Col. 5, line 66 to col. 6 line 3; and col. 6, lines 57-59) Figure 4B of Rusincovitch shows the non-adhesive forms on the surface, and not embedded into the release liner. Rusincovitch further states at column 6, lines 60-61 that the printed ink spacers protrude from the flat surface of the release liner. The rollers of Rusincovitch that the Examiner has referred to (e.g., rollers 56 and 58 in Figures 3 and 7, and rollers 56, 82, 86 and 88 in Figure 4A) are not disclosed nor suggested as being capable of embedding the printed spacers into the release liner. Upon rolling of the adhesive article of Rusincovitch, the pattern of non-adhesive spacers transfers to from the release coating to the adhesive coating. (Col. 4, lines 56-58.) Rusincovitch does not disclose, teach or suggest that the spacers are fully embedded into the release coatings such that the upper surface of the spacers is even with or below the plane of the upper surface of the release coating.

The apparatus of Rusincovitch shown in Figure 3 and the corresponding disclosure (col. 5, lines 24-61) does not include embossing rollers. Rather, the printed release liner is advanced through the apparatus with idler rollers 56 and 58. The apparatus of Rusincovitch shown in Figures 4A and 7 and the corresponding disclosures (col. 6, lines 5-10 and col. 7, lines 7-13, respectively) also do not include embossing rollers. While each of the apparatus of Figures 4A and 7 include a station for combining the substrate and the printed release liner by passing the moving release liner and substrate through a rubber nip roller 82 and a cooling can, there is no disclosure or suggestion that the release liner is heated and sufficient pressure is exerted to embed the spacers fully into the release liner. Rather, the spacers are transferred to the adhesive surface from the release surface of the liner. (Col. 12, lines, 4-6). In the process for making Applicants' claimed adhesive articles, embedding temperatures are typically in the range of about 150° to about 300°F and the embedding pressure is typically between 25 to about 150 psi, with lower embedding pressure required for higher embedding temperatures. (See paragraphs 0048 and 0049 of the specification.) The pressure exerted by the idler rollers and nip rollers of Rusincovitch onto the printed release liner is insufficient to embed the spacers of Rusincovitch into the release liner. Therefore, the process of Rusincovitch is not equivalent to the process by which the adhesive article of the present invention is made and further, the process of Rusincovitch would not inherently result in the claimed adhesive article. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 31-33, 35-40, 42, 46-52, 55 and 59 under 35 U.S.C. §103(a).

Rejection of Claims 31-33, 35, 37, 42-43, 49-53,
55 and 59 under 35 U.S.C. §103(a)

Claims 31-33, 35-40, 42-43, 46, 49-53, 55 and 59 have been rejected under U.S.C. §103(a) as being unpatentable over Calhoun et al. (US Pat. No. 5,141,790) in view of Rusincovitch et al. ('787). The Examiner contends that Calhoun et al. disclose an adhesive

article comprising a release liner having a top release surface and a bottom surface, a continuous layer of adhesive having a bottom surface and a top surface and end edges, wherein the bottom surface of the adhesive is adhered to the top release surface of the release liner such that the non-adhesive material forms have a top surface wherein the top surface of the material forms is even with or below the plane of the top release surface of the release liner. The Examiner further contends that Rusincovitch et al. explicitly attempt to correct the deficiencies in Calhoun, mainly the use of glass microspheres by using ink instead of the microspheres. It is the Examiner's position that it would have been obvious to one of ordinary skill in the art to have modified Calhoun et al. by replacing the glass microspheres with the non-adhesive material ink as taught by Rusincovitch in order to provide a repositionable adhesive wherein the non-material forms are not noticeable when viewing the substrate from the facestock surface.

Applicants respectfully disagree with the Examiner's contention. Rusincovitch et al. at column 2, lines 21-24 acknowledge the disadvantages and defects of the prior art, which includes Calhoun '790. However, Rusincovitch's solution is to print spacers on the surface of a release liner and then coat the release liner with an adhesive, so that the spacers protrude from the surface of the release liner. Rusincovitch does not teach or suggest printing non-adhesive material forms onto the surface of the release liner and then embedding the non-adhesive material forms so that the top surface of the non-adhesive material forms is even with or below the plane of the top release surface of the release liner. As discussed above, the process of Rusincovitch is not equivalent to the process by which the adhesive article of the present invention is made and further, the process of Rusincovitch would not inherently result in the claimed adhesive article. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 31-33, 35-40, 42-43, 46, 49-53, 55 and 59 under 35 U.S.C. §103(a).

Rejection of Claims 47-48 under 35 U.S.C. § 103(a)

Claims 47 and 48 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Calhoun et al. ('790) in view of Rusincovitch et al. ('787), and further in view of Plamthottam et al. (US Pat. No. 5,180,635). The Examiner contends that Calhoun and Rusincovitch teach the adhesive article of Applicant's invention and that although they fail to teach porous, elastomeric non-adhesive material forms, it would have been obvious to one of ordinary skill in the art to modify Calhoun and Rusincovitch to include porous elastomeric materials as taught by Plamthottam et al. in order to reduce the density of the carrier layers, improve peel adhesion and thereby improve conformability and the strength of the adhesive article.

Applicant respectfully disagrees with the Examiner's contention. Plamthottam et al. is directed to a pressure sensitive adhesive tape in which the adhesive layer is made up of a rubber based adhesive matrix within which microspheres are mixed. The microspheres may be solid, hollow or porous and rigid or elastomeric. Plamthottam does

not disclose, teach or suggest an adhesive article having non-adhesive material forms embedded into the surface of a release liner. Rather, Planthottam teaches microspheres mixed into an adhesive matrix. There is no teaching or suggestion in any one of Planthottam, Calhoun and Rusincovitch to substitute the microspheres in the adhesive matrix of Planthottam for the spaced surface clumps of Calhoun or the surface printed spacers of Rusincovitch. Furthermore, even if there were a teaching or suggestion for such a modification, the resulting adhesive article would not be the adhesive article as claimed by Applicant. As discussed above, Applicant's claimed adhesive article includes non-adhesive material forms comprising a polymeric ink that are embedded into the release liner even with or below the upper surface of the release liner. None of Calhoun, Rusincovitch and Planthottam, alone or in combination, disclose, teach or suggest the adhesive article as claimed by Applicant. Therefore, Applicant respectfully requests withdrawal of the rejection of claims 47-48 under 35 U.S.C. §103(a) based on Calhoun et al. ('790) in view of Rusincovitch and further in view of Planthottam.

Rejection of Claims 54 and 56-58 under 35 U.S.C. § 103(a)

Claims 54 and 56-58 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over Calhoun et al. (US Patent No. 5,141,790) in view of Rusincovitch ('787) and further in view of Calhoun (US Patent No. 5,585,178). The Examiner contends that it would have been obvious through routine experimentation, based on the teachings of Calhoun ('178) to have used multiple layers of adhesive in an adhesive article for the purpose of providing varying properties to the article, wherein one adhesive provides repositionability and the second adhesive builds bond strength through aging.

Applicant respectfully disagrees with the Examiner's contention. Calhoun ('178) teaches a composite adhesive, or in other words, a single adhesive layer made up of two distinct adhesives having different viscoelastic properties. The Examiner has mischaracterized Calhoun ('178). Fig. 4 upon which the Examiner has relied for the teaching of two distinct adhesive layers is actually an illustration of roll of tape that is partially unwrapped. (Col. 7, lines 1-5.) Applicant's invention as claimed in claims 56-58 includes two separate adhesive layers, separated by a release liner. Applicant's invention as claimed in claim 54 includes two release liners separated by an adhesive layer. Furthermore, as discussed above, Calhoun ('790) and Rusincovitch, do not disclose, teach or suggest the adhesive article as claimed by Applicant, and Calhoun ('178) does not cure the deficiencies of Calhoun ('790) and Rusincovitch. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 54 and 56-58 under 35 U.S.C. § 103(a).

Rejection of Claims 60-62, 66-72 and 74 under 35 U.S.C. § 103(a)

Claims 60-62, 66-72 and 74 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Calhoun et al. ('790) in view of Torobin (4,582,532). The Examiner contends that although Calhoun ('790) fails to teach the use of vacuum metalized or

sputtered non-adhesive material forms, it would have been obvious through routine experimentation to one of ordinary skill in the art to have modified a glass microsphere by including a vacuum metalized or sputtered metal layer on the microsphere for the purpose of providing a substrate with microspheres superior in strength while light in weight as taught by Torobin.

Applicants respectfully disagree with the Examiner's contention. Claim 60 has been amended to clarify that the non-adhesive material forms are vacuum metalized or sputtered deposits. Applicants are not claiming glass microspheres that have been modified by depositing a thin metal coating onto the surface of the microspheres. Rather, Applicants have claimed non-adhesive material forms that are themselves vacuum metalized or sputtered deposits. Torobin discloses glass microspheres having a vacuum metalized or sputtered layer of metal deposited on the surfaces of the glass microspheres. Torobin discloses that such metalized glass microspheres are useful as insulating materials and filler materials. Calhoun ('790) discloses individual particles or clumps of particles that are used to fill a depression in a carrier web. Substituting the metalized glass microspheres into the adhesive tape of Calhoun would not result in the invention as claimed by Applicants.

As one skilled in the art would know, vacuum metalized or sputtered deposits are very thin, i.e., on the nanometer scale. (See paragraph 0033.) Neither Calhoun ('790) nor Torobin, alone or in combination, disclose or suggest vacuum metalized or sputtered deposits of non-adhesive material forms embedded into the release surface of the release liner. In view of the amendment to claim 60 and the foregoing remarks, Applicants respectfully request withdrawal of the rejection and allowance of claims 60-62, 66-72 and 74.

Rejection of Claims 63-65 under 35 U.S.C. §103 (a)

Claims 63-65 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Calhoun ('790) in view of Torobin ('534) and further in view of GB 1,511,060. The Examiner contends that it would have been obvious through routine experimentation to one of ordinary skill in the art to have used a grid pattern in an adhesive article for the purpose of achieving the air egressing effect as taught by GB '060. The Examiner further contends that it would have been obvious to one of ordinary skill in the art to have modified the aforementioned prior art to include a grid pattern as taught by GB '060 in order to allow the non-adhesive material forms to form a pattern that can effectively achieve the air egressing effect.

Applicants respectfully disagree with the Examiner's contention. As discussed above with regard to Calhoun ('790) and Torobin, Applicants are not claiming glass microspheres that have been modified by depositing a thin metal coating onto the surface of the microspheres. Rather, Applicants have claimed non-adhesive material forms that are themselves vacuum metalized or sputtered deposits. Torobin discloses glass

microspheres having a vacuum metalized or sputtered layer of metal deposited on the surfaces of the glass microspheres. Torobin discloses that such metalized glass microspheres are useful as insulating materials and filler materials. Calhoun ('790) discloses individual particles or clumps of particles that are used to fill a depression in a carrier web. The disclosure of GB '060 does not cure the deficiencies of Calhoun and Torobin. Substituting the metalized glass microspheres into the adhesive tape of Calhoun and then further modifying the adhesive tape of Calhoun to include a plurality of clumps in the form of a line or grid would not result in the invention as claimed by Applicants. Neither Calhoun ('790) nor Torobin nor GB '060, alone or in combination, disclose or suggest vacuum metalized or sputtered deposits of non-adhesive material forms embedded into the release surface of the release liner. In view of the amendment to claim 60 and the foregoing remarks, Applicants respectfully request withdrawal of the rejection and allowance of claims 63-65.

Rejection of Claims 73 and 75-77 under 35 U.S.C. §103 (a)

Claims 73 and 75-77 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Calhoun ('790) in view of Torobin ('534), and further in view of Calhoun ('178). The Examiner contends that it would have been obvious to one of ordinary skill to have modified Calhoun ('790) and Torobin ('534) to include a second layer of adhesive as taught by Calhoun ('178) in order to provide an adhesive article with varying properties via the use of multiple adhesives wherein one adhesive provides the article with repositionability and the other builds bond strength through aging and is bonded to a facestock.

Applicants respectfully disagree with the Examiner's contention. Calhoun ('178) teaches a composite adhesive, or in other words, a single adhesive layer made up of two distinct adhesives having different viscoelastic properties. The Examiner has mischaracterized Calhoun ('178). Fig. 4 upon which the Examiner has relied for the teaching of two distinct adhesive layers is actually an illustration of roll of tape that is partially unwrapped. (Col. 7, lines 1-5.) Applicant's invention as claimed in claims 75-77 includes two separate adhesive layers, separated by a release liner. Applicant's invention as claimed in claim 73 includes two release liners separated by an adhesive layer. Furthermore, as discussed above, Calhoun ('790) and Torobin do not disclose, teach or suggest the adhesive article as claimed by Applicant, and Calhoun ('178) does not cure the deficiencies of Calhoun ('790) and Torobin. Accordingly, Applicant respectfully requests withdrawal of the rejection of claims 73 and 75-77 under 35 U.S.C. § 103(a).

Conclusion

In view of the foregoing amendment and remarks, Applicant respectfully submits that the Examiner's rejections have been overcome and respectfully requests allowance of claims 31-33, 35-40, 42, 43 and 46-77.

Respectfully submitted,

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